

BUCKLING ANALYSIS AND DESIGN OF THIN-WALLED STRUCTURES BASED ON NOVEL AND INTELLIGENT COMPUTATIONAL METHODS

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MINISYMPOSIUM

Thin-walled structures have been widely used in aerospace industry, the load-carrying capacity of which is significantly influenced by buckling. A reliable prediction of buckling phenomena requires a robust, efficient and accurate analysis tool and consideration of a number of inherent structural imperfections which often dominate the overall non-linear elastic response. Furthermore, they are also key factors for an innovative and sustainable thin-walled structural design which exploits the full lightweight potential.

Nowadays, new theories and computational methods for buckling problems are constantly emerging. With the rapid development of artificial intelligence, a series of intelligence technologies, such as data-driven and digital twins, have been successfully applied into engineering structural analysis and design.

This mini-symposium aims at bringing together researchers from across the structural buckling community to discuss and exchange latest achievements in the field of novel methods for buckling analysis and design of thin-walled structure research. Topics of interest include, but are not limited to computational and algorithmic aspects of the analytical and semi-analytical methods, numerical methods and various data-driven intelligence methods.